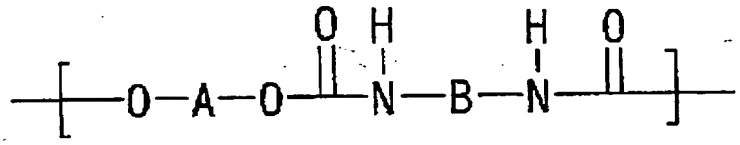
CLAIMS

1. A paste composition comprising:

(i) a polyurethane resin which comprises:

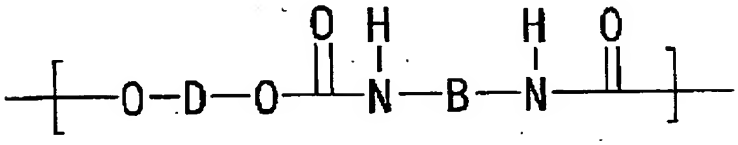
(a) a recurring unit represented by the following formula (1):



(1)

wherein A is a group (divalent group) given by removing OH groups from a polyoxyalkylene glycol (compound A) HO-A-OH having hydroxyl groups on both terminals thereof, and B is a group (divalent group) given by removing NCO groups from a diisocyanate (compound B) OCN-B-NCO, and

(b) a recurring unit represented by the following formula (2):



(2)

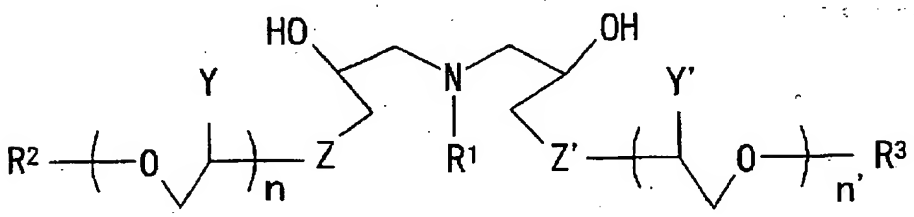
wherein D is a group (divalent group) given by removing OH groups from a comb-shaped diol HO-D-OH having at least two hydrocarbon groups (monovalent groups) of 4 to 21 carbon atoms in a molecule, and B is a group (divalent group) given by removing NCO groups from a diisocyanate (compound B) OCN-B-NCO,

said polyurethane resin having a molar fraction of the recurring unit (a) from 0.35 to 0.99 and a molar fraction of the recurring unit (b) from 0.01 to 0.65, with the proviso that the total of both the molar fractions is 1,

(ii) a solvent, and

(iii) a powder.

2. The paste composition as claimed in claim 1, wherein the comb-shaped diol HO-D-OH is a comb-shaped diol (compound D) represented by the following formula (3):



(3)

wherein R^1 is a hydrocarbon or nitrogen-containing hydrocarbon group of 1 to 20 carbon atoms, R^2 and R^3 are each a hydrocarbon group of 4 to 21 carbon atoms, a part or all of hydrogen atoms in R^1, R^2 and R^3 may be replaced with fluorine, chlorine, bromine or iodine, and R^2 and R^3 may be the same or different,

Y and Y' are each hydrogen, a methyl group or a CH_2Cl group, and Y and Y' may be the same or different,

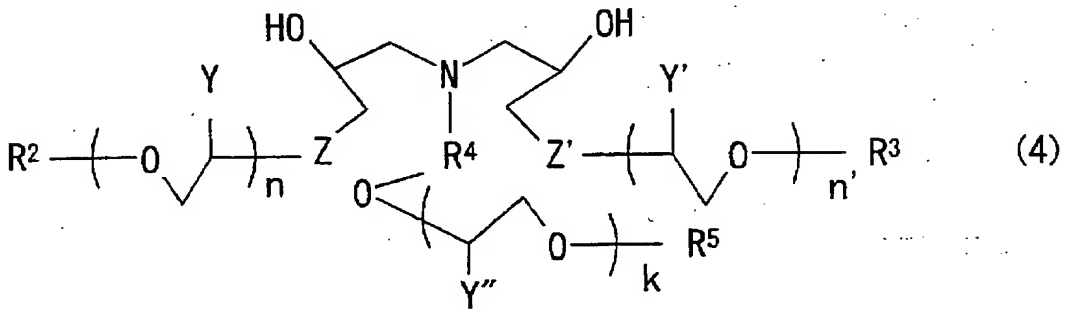
Z and Z′ are each oxygen, sulfur or a CH_2 group, and Z and Z′ may be the same or different,

when Z is oxygen, n is an integer of 0 to 15, and when Z is sulfur or a CH_2 group, n is 0, and

when Z′ is oxygen, n′ is an integer of 0 to 15, when Z′ is sulfur or a CH_2 group, n′ is 0, and n and n′ may be the same or different;

or

a comb-shaped diol (compound D′) represented by the following formula (4):



(4)

wherein R^5 is a hydrocarbon group of 1 to 20 carbon atoms, R^2 and R^3 are each a hydrocarbon group of 4 to 21 carbon atoms, a part or all of hydrogen atoms in R^5, R^2 and R^3 may be replaced with fluorine, chlorine, bromine or iodine, and R^2 and R^3 may be the same or different,

Y, Y′ and Y″ are each hydrogen, a methyl group or a CH_2Cl group, and Y and Y′ may be the same or different,

Z and Z′ are each oxygen, sulfur or a CH_2 group, and Z and Z′ may be the same or different,

R_4 is an alkylene group having 2 to 4 carbon atoms in all,

k is an integer of 0 to 15,

when Z is oxygen, n is an integer of 0 to 15, and when Z is sulfur or a CH_2 group, n is 0, and

when Z' is oxygen, n' is an integer of 0 to 15, when Z' is sulfur or a CH_2 group, n' is 0, and n and n' may be the same or different.

3. The paste composition as claimed in claim 1 or 2, wherein the powder (iii) is a low-melting point glass powder.

4. The paste composition as claimed in any one of claims 1 to 3, which further comprises an inorganic filler (except the low-melting point glass powder) as the powder (iii).

5. The paste composition as claimed in claim 1 or 2, wherein the powder (iii) is a phosphor powder.

6. The paste composition as claimed in any one of claims 1 to 4, wherein the low-melting point glass powder is a dielectric glass powder.

7. The paste composition as claimed in any one of claims 1 to 4, wherein the low-melting point glass powder is a sealing glass powder.

8. The paste composition as claimed in any one of claims 1 to 4, wherein the low-melting point glass powder is a barrier rib material glass powder.

9. A dielectric layer formed from the paste composition of any one of claims 1 to 4 and 6.

10. A sealed product formed from the paste composition of any one of claims 1 to 4 and 7.

11. A barrier rib formed from the paste composition of any one of claims 1 to 4 and 8.

12. A phosphor formed from the paste composition of any one of claims 1, 2 and 5.

13. A process for producing a dielectric layer, comprising applying or printing the paste composition of

any one of claims 1 to 4 and 6 on a substrate and then firing the paste composition.

14. A process for producing a sealed product, comprising applying or printing the paste composition of any one of claims 1 to 4 and 7 on a substrate and then firing the paste composition.

15. A process for producing a barrier rib, comprising applying or printing the paste composition of any one of claims 1 to 4 and 8 on a substrate and then firing the paste composition.

16. A process for producing a phosphor, comprising applying or printing the paste composition of any one of claims 1, 2 and 5 on a substrate and then firing the paste composition.